

Table of Contents – 1994

February 1994

Summary of Policy on the Use of SI Units

| | |
|---|-----|
| Articles | |
| The Role of Gas Phase Momentum in Determining Gas Holdup and Hydrodynamic Flow Regimes in Bubble Column Operations • I. G. Reilly, D. S. Scott, T. J. W. De Brujin and D. MacIntyre | 2 |
| Size Distribution of Drops Formed from Nozzles in Liquid-Liquid Systems at Velocities Below Jetting • Constantinos Karagiannis, Dimitrios Papageorgiou and Michael Stamatoudis | 3 |
| Fouls rotatifs: Modèle dynamique du mouvement du lit • J. Perron et R. T. Bui | 13 |
| Analysis of the Stratified/Nonstratified Transitional Boundary in Horizontal and Slightly Inclined Condensing Flows • T. Nitheanandan and H. M. Soliman | 16 |
| Wall Effect On Mixed Convection From Horizontal Surfaces With a Variable Surface Heat Flux • T. K. Aldoss, M. A. Jarrah and H. M. Duwairi | 26 |
| Analysis of a Ring-shaped Sensor for Use in Packed-bed Heat Transfer Studies • Reinaldo Giudici and Claudio Augusto Oller do Nascimento | 35 |
| Local Mass Transfer for Tube Banks in Two-Phase Flow • Ana Chiappori de del Giorgio, Omar N. Cavatorta and Ursula Böhm | 43 |
| Relative Supersaturation Ratio and Separation Factor in Crystallization with High Pressure CO ₂ • Chiehming J. Chang, Yuchung Liou and Wen-Jen Lan | 50 |
| On-line Determination of Supersaturation of a KCl-NaCl Aqueous Solution Based on Density Measurement • Terry P. Redman and Sohrab Rohani | 64 |
| Analysis of the Mechanism of Rare Earth Metal Permeation Through a Liquid Membrane With a Chelating Agent in the Feed Phase • Toshinori Kojima, Chikako Nakayama and Shigeyuki Uemiya | 72 |
| Surface Conditioning for Potash Electrostatic Separation • G. Zhou and K. Moon | 78 |
| Coking Threshold in Hydroprocessing of Asphaltenic Oils • J. F. Kriz | 85 |
| Reactivation of Partially-Sulphated Limestone Particles From a CFB Combustor by Hydration • M. F. Couturier, D. L. Marquis, F. R. Steward and Y. Volmerange | 91 |
| Characterization and Catalytic Gasification of the Aqueous By-Product from Vacuum Pyrolysis of Biomass • C. Roy, H. Pakdel, H. G. Zhang and D. C. Elliott | 98 |
| Acid Hydrolysis of Cellulose. Part II: Stochastic Simulation Using a Monte Carlo Technique • Zin-Eddine Dadach, José-Henrique Q. Pinto and Serge Kallaguine | 106 |
| Modified Oil Agglomeration Process for Coal Beneficiation. IV. Pilot-Plant Demonstration of the Simultaneous Grinding-Agglomeration Process • Olev Trass, E. R. Vasquez, P. D. Campbell, E. A. J. Gandolfi and V. R. Koka | 113 |
| Prediction of Carbon Dioxide Gas Hydrate Formation Conditions in Aqueous Electrolyte Solutions • C. W. Tse and P. R. Bishnoi | 119 |
| Measurement and Prediction of the Density of Aqueous Ternary Mixtures of Methyldiethanolamine and Diethanolamine at Temperatures from 25°C to 80°C • T. T. Teng, Y. Maham, L. G. Hepler and A. E. Mather | 125 |
| Solubility of Methane in Glycols at Elevated Pressures • F.-Y. Jou, F. D. Otto and A. E. Mather | 130 |
| Near-Critical Phase Behavior of Mixtures Using Equations of State • Abbas Firoozabadi, Sepehr Arbabi and Birol Dindoruk | 134 |
| Computer-aided Measurement of Vapor-Liquid Equilibrium in a Still • Toshihiko Hiaki, Kazutaka Yamato, Hajime Miyazawa and Kazuo Kojima | 142 |
| Notes | |
| Bubble Size Distribution in a Flotation Column • S. K. Biswal, P. S. R. Reddy and S. K. Bhaumik | 148 |
| Mass Transfer Study in a Pulsed Bed Electrode – Application to the Electrodeposition of a Poly(dibenzo-18-crown-6) Film • N. Le Bolay, J. F. Guillard and A. Ricard | 153 |
| Global Optimization of the Bifunctional Catalyst Problem • Rein Luus and Bojan Bojkov | 160 |
| Kinetics and Mechanism of the Vapour Phase Nitroxidation of Toluene Over Nickel Oxide-Aluminium Oxide Catalyst • R. Prasad, A. Garg and S. Mathews | 164 |
| Corrélation entre la stabilité colloïdale de la matière première et le degré de dispersion du noir de carbone • A. Chaala et B. Benalla | 167 |
| Calculation of Excess Molar Volumes with Different Cubic Equations of State and Different Mixing Rules • Bojan D. Djordjević, Slobodan P. Šerbanović and Dušan K. Grozdanović | 171 |
| Contents Page from Chemical Engineering Research and Design | 166 |
| Erratum | 170 |
| Notice to Authors/Avis aux auteurs | 176 |
| New Instructions to Authors | IBC |

April 1994

| | |
|---|-----|
| Articles | |
| Importance of Using the Correct Impeller Boundary Conditions for CFD Simulations of Stirred Tanks • M. D. Fokema, S. M. Kresta and P. E. Wood | 177 |
| Modeling of the 3D Hydrodynamics of 2-Blade Impellers in Stirred Tanks Filled With a Highly Viscous Fluid • Mohammed Abid, Catherine Xuereb and Joël Bertrand | 184 |
| A Correlation to the Solution of the Two-Phase Dispersion Model • Hasan Qabazard, Marvin M. Johnson and Paul F. Meier | 194 |
| Drag on Individual Cubic Assemblies of Spheres in Non-Newtonian Tube Flow • Girish Subramanian and Carlos A. Zuritz | 201 |
| Non-Newtonian Liquid Flow Through Globe and Gate Valves • Tapan Kumar Banerjee, Manas Das and Sudip Kumar Das | 207 |
| Changes in Liquid Hold-Up in Foam and Size of Foam by Perforated Plates and Contribution to Mechanical Foaming-Breaking • M. Kunii, K. Hosokai, K. Yamagawa, M. Onodera and A. Ohkawa | 212 |
| Dispersed Phase Characteristics in Three Phase (Liquid-Liquid-Solid) Fluidized Beds • Sang Done Kim, Dong Yun Kim and Joo Hee Han | 222 |
| Measurements of Voidage Profiles in Spouted Beds • Y.-L. He, C. J. Lim, J. R. Grace, J.-X. Zhu and S.-Z. Qin | 229 |
| Minimum Spouting Velocity in Multiple Spouted Beds • D. V. R. Murthy and P. N. Singh | 235 |
| The Movement of Solids Through Flighted Rotating Drums. Part II. Solids-Gas Interaction and Model Validation • Richard G. Sherritt, Rod Caple, Leo A. Behie and Anil K. Mehrotra | 240 |

| | |
|--|--------|
| Transient Forced Convection in the Entrance Region of a Porous Tube • M. A. Al-Nimr, T. Aldoss and M. I. Naji | 249 |
| Simulation of SO ₂ Absorption by Falling Water Drops • Chien-T'ai Hsu, Shin-Min Shih and Ching-Yuang Chang | 256 |
| Diffusion in Liquid-Filled Pores of Activated Carbon. I. Pore Volume Diffusion • R. Leyva-Ramos and C. J. Geankoplis | 262 |
| Residual Oil Cracking Combined with Hydrogen Production by Steam-Iron Reaction • Satoshi Fukase and Teruo Suzuki | 272 |
| Kinetics of Hydrogen Reduction of Sodium Sulfate Mixed with Sodium Titanate • X. Zou, M. M. Avedesian and A. R. P. van Heiningen | 279 |
| Kinetic Study of the Reaction Between Molybdenum Tri-oxide and Gaseous Carbon Tetrachloride • M. del C. Ruiz, J. B. Rivarola and O. D. Quiroga | 289 |
| Preparation, Characterization and Activity of Wet-Proofed Pt/Silicalite Catalysts • H. A. Rangwala, S. E. Wanke and F. D. Otto | 296 |
| Mise au point d'un absorbeur par voie semi-sèche à base d'un venturi haute énergie • Nizar Kholi, Mohand Benachour et André Zoulalian | 304 |
| Thermodynamics and Kinetics of the Kraft Causticizing Reaction • L. Wang, P.J.-C. Tessier and P. Englezos | 314 |
| Identification and Control of an Industrial Steam-Reforming Plant • A. M. Meziou and I. M. Alatiqi | 321 |
| Multicomponent Ion Exchange Column Dynamics • Henry K. S. Tan and Irving H. Spinner | 330 |
| Evaluation of Capital Cost Data: Part 8: Liquid Waste Disposal With Emphasis on Biological Treatment • David G. Wright and Donald R. Woods | 342 |
| Notes | |
| Pressure Drop for the Slow Flow of Dilatant Fluids Through a Fixed Bed of Spherical Particles • A. K. Jaiswal, T. Sundararajan and R. P. Chhabra | 352 |
| Heat Transfer Mechanism Due to Particle Convection in Circulating Fluidized Bed • Chunming Qi and Ihab H. Farag | 354 |
| Synthesis of Entrainers in Heteroazeotropic Distillation Systems • I. A. Furzer | 358 |
| A Proposed Method for the Calculation of Theoretical Plates in Liquid-Liquid-Solid Three-Phase Extraction Columns: Methanol, Hexane and Rapeseed Meal System • Meiren Shi, Shiquan Shen and Jian Liu | 365 |
| Experimental Evaluation of Molten Caustic Leaching of an Oil Sand Coke Residue • Mukti T. Ityokumbul | 370 |
| Modified Oil Agglomeration Process for Coal Beneficiation. III. Grinding and Agglomeration Using Different Szego Mill Designs • Thomas W. McCracken and Olev Trass | 375 |
| Characteristics of Heavy-Oil-in-Water Emulsions Containing Produced Sand • A. K. M. Jamaluddin, C. T. Bowen, R. Gillies, M. Small and T. W. Nazarko | 380 |
| Contents Page from Chemical Engineering Research and Design | 374 |
| Avis aux auteurs/Notice to Authors | 384 |
| Nouvelles instructions au auteurs | I.B.C. |
| June 1994 | |
| 1993 Albright and Wilson Americas Award Lecture | |
| Polymer Reaction Engineering: From Reaction Kinetics to Polymer Reactor Control • A. Penlidis | 385 |
| Articles | |
| Particle Suspension Hydrodynamics in a Tapered Gas Agitated Reactor • R. H. Kleijntjens, R. G. J. M. van der Lans and K. Ch. A. M. Luyben | 392 |
| Loading, Draining and Hold-up in Periodically Operated Trickle-Bed Reactors • Wahyu Hasokowati, R. R. Hudgins and P. L. Silveston | 405 |
| Hydrodynamic Characteristics of a Trickling Bed of Peat Moss Used for Biofiltration of Wastewater • D. G. Karamanov, M.-C. Belanger, C. Chavarie, J. Chaouki, R. Mayer and P. Talbot | 411 |
| Mixing in the Transition Flow Regime with Helical Ribbon Agitators • Jianya Cheng and Pierre J. Carreau | 418 |
| Oscillating Grid Turbulence and Bulk Mixing at High Schmidt Numbers • A. E. Kostazos, P. S. Apikides, E. G. Kastrinakis and S. G. Nychas | 431 |
| Neural Network Based Objective Flow Regime Identification in Air-Water Two Phase Flow • Shigian Cai, Haluk Toral, Jianhong Qiu and John S. Archer | 440 |
| Drying Paper by Impinging Jets of Superheated Steam. Part 1: Constant Drying Rate in Superheated Steam • J. F. Bond, A. S. Mujumdar, A. R. P. van Heiningen and W. J. M. Douglas | 446 |
| Drying Paper by Impinging Jets of Superheated Steam. Part 2: Comparison of Steam and Air as Drying Fluids • J. F. Bond, A. S. Mujumdar, A. R. P. van Heiningen and W. J. M. Douglas | 452 |
| A Bifurcation Study of Convective Heat Transfer in a Hele-Shaw Cell • D. K. Ryland and K. Nandakumar | 457 |
| Amelioration du transfert convectif de chaleur par l'écoulement pulse dans un fluide visqueux • X. Shuai, S. Cheng et G. Antonini | 468 |
| Thermal Plasma Production of Fumed Silica: The Effect of Quench Conditions on Thickening and Thixotropic Ability • T. Addona and R. J. Munz | 476 |
| Modelling the Influence of Osmotic Pressure Gradients, Interstitial Volume, and Lymphatic Action on Mass Exchange in Body Tissues • D. G. Taylor | 484 |
| Biodegradation of 2,4-Dichlorophenoxyacetic Acid (2,4-D) by <i>Pseudomonas cepacia</i> : Stoichiometric Study • Sylvie Fradette, Denis Rho, Réjean Samson and Anh LeDuy | 497 |
| Coal Gasification in a Jet-Spouted Bed • Toshiro Tsuji and Osamu Uemaki | 504 |
| Gas Evolution from the Aquathermolysis of Heavy Oils • J. D. M. Belgrave, R. G. Moore and M. G. Ursenbach | 511 |
| Effect of Electrode Geometry and Charge on the Production of Polymer Microbeads by Electrostatics • B. Bugarski, B. Amsden, R. J. Neufeld, D. Poncelet and M. F. A. Goosen | 517 |
| The Oxidation of Valeric Acid in Aqueous Solution • N. Nikolaou, N. Abatzoglou, S. Gasso and E. Chornet | 522 |
| Use of Mixed Surfactants to Improve the Transient Interfacial Tension Behaviour of Heavy Oil/Alkaline Systems • C. I. Chiwetelu, V. Hornof, G. H. Neale and A. E. George | 534 |
| Solubility of Argon in Acetone + Water Mixed Solvent at 288.15, 298.15 and 308.15 K • Hideki Yamamoto, Junji Tokunaga and Keiji Koike | 541 |

Notes

| | | | |
|--|-----|--|-----|
| Wall-to-bed Heat Transfer in Three-Phase Fluidized Beds of Low Density Particles • O. Nore, G. Wild, C. L. Briens and A. Margaritis | 546 | Anode Slime Behaviour in a Laboratory-Scale Copper Electrorefining Process • X. Ling, Z. H. Gu and T. Z. Fahidy | 683 |
| Adsorption of Sodium Dodecyl Sulphate on Cassiterite Surface • M. L. González-Martín, B. Jariczuć, J. M. Bruque and C. Dorado-Calasanz | 551 | Liquid-Liquid Equilibria of Heptane-Methanol-Toluene-Calcium Chloride and Ethyl Acetate-Water-Ethanol-Calcium Chloride Quaternary Systems • Yoshio Kumagae, Tetsuya Suzuta, Tadashi Abe, Yoshio Iwai and Yasuhiko Arai | 695 |
| Correlation and Prediction of the Viscosity of Pure Hydrocarbons • Anil K. Mehrotra | 554 | Estimating Parameters in Nonlinear Rate Equations • Donald G. Watts | 701 |
| Letter To The Editor | 558 | Application of a Fuzzy Match Inference Strategy in Synthesis of Separation Systems • Yu Qian and Kristian M. Lien | 711 |
| Contents Page from Chemical Engineering Research and Design | 503 | A Diverse Approach for the Solution of the Isothermal Multiphase Flash Problem. Application to Vapor-Liquid-Liquid Systems • Roumiana P. Stateva and Stefan G. Tsvetkov | 722 |
| Call for Papers: Special Issue on Unsteady-state Processes in Catalysis | 521 | Characterization of Robust Performance Using Response Surfaces • Venugopal G. Krishnapura and Arthur Jutan | 735 |
| Call for Papers: Special Issue on Circulating Fluidized Beds | 560 | | |

August 1994

Articles

| | | | |
|--|-----|--|-----|
| Particle Velocity Profiles and Solid Flow Patterns in Spouted Beds • Y.-L. He, S.-Z. Qin, C. J. Lim and J. R. Grace | 561 | The Influence of Solid Properties on the Just-Suspended Agitation Requirements of Pitched-Blade and High-Efficiency Impellers • Kevin J. Myers, Julian B. Fasano and Robert R. Corpstein | 745 |
| Hydrodynamics of Turbulent Bed Contactor: Flooding Aspects • K. Soundarajan and K. Krishnaiah | 569 | A Rheological Evaluation of Linear and Branched Controlled-Rheology Polypropylenes • Costas Tzoganakis | 749 |
| Hysteresis Effects in Countercurrent Gas-Liquid Flow Limitations in a Vertical Tube • M. Shoukri, A. Abdul-Razzak and C. Yan | 576 | Natural Convective Heat Transfer From Open Vertical Tubes • M. H. I. Baird and B. A. Legree | 755 |
| Further Studies on Flowing Gas-Solids Suspensions in a Tube at High Angles of Inclination • A. Ginestet, P. Guigou, J. F. Large and J. M. Beeckmans | 582 | Letter To The Editor | 759 |
| Drag on Non-Spherical Particles in Non-Newtonian Fluids • D. Rodrigue, R. P. Chhabra and D. De Kee | 588 | Letter To The Editor | 763 |
| An Optimal Operational Strategy for Wood in Batch Drying System • Bing Joe Hwang, Cheng-Hsing Wang and Ching-Tein Liou | 594 | Book Review | 766 |
| Determination of Thermal Parameters of Non-Spherical Particles in a Packed Bed from System Response Analysis in the Time Domain • H. D. Doan, R. B. Brown, V. J. Davidson and L. Otten | 602 | Erratum | 766 |
| Efficiency of Dualflow Trays in Distillation • Z. P. Xu, A. Afacan and K. T. Chuang | 607 | Book Review | 767 |
| Effects of Surface Tension on Tray Point Efficiencies • G. X. Chen, A. Afacan and K. T. Chuang | 614 | Call for Papers: Special Issue on Circulating Fluidized Beds | 765 |
| Fixed-Bed Adsorber Dynamics in Binary Physisorption-Diffusion • Vincent G. Gomes and O. Maynard Fuller | 622 | Call for Papers: Special Issue on Unsteady-state Processes in Catalysis | 762 |
| Co-Extraction - Selective Stripping for the Recovery of Nickel and Copper from the Leach Liquor of Ocean Nodules • B. D. Pandey, D. Bagchi and Vinay Kumar | 631 | Contents Page from Chemical Engineering Research and Design | 758 |
| Effect of Pore Size on Bitumen Hydrocracking Over $\text{Al}_2\text{O}_3\text{-AlPO}_4$ Supported Ni-Mo Catalysts • Kevin J. Smith, Leszek Lewkowicz, Mike C. Oballa and Andrzej Krzywicki | 637 | October 1994 | |
| Two-Stage Pyrolysis Model of PVC • Chao-Hsiung Wu, Ching-Yuan Chang, Jwo-Luen Hor, Shin-Min Shih, Leo-Wang Chen and Feng-Wen Chang | 644 | | |
| Reaction Kinetics of Rye Straw for Thermochemical Conversion • A. E. Ghaly and A. Ergüdenler | 651 | Articles | |
| Methanol Synthesis Under Periodic Operation: An Experimental Investigation • K. G. Chanchlani, R. R. Hudgins and P. L. Silveston | 657 | Measurement of Gas and Liquid Flows in Stirred Tank Reactors with Multiple Agitators • M. Manikowski, S. Bodemeier, A. Lübbert, W. Bujalski and A. W. Nienow | 769 |
| Optimal Periodic Forcing of Nonlinear Chemical Processes for Performance Improvements • Chien-Chong Chen, Chi-Hsiang Chen and Ray Y. K. Yang | 672 | Flow Characteristics of Hyperboloid Stirrers • J. M. Nouri and J. H. Whitelaw | 782 |
| | | The Maximum Spoutable Bed Heights of Fine Particles Spouted with Air • Ayse Çeçen | 792 |
| | | Friction and Heat and Mass Transfer for Turbulent Pseudoplastic Non-Newtonian Fluid Flows in Rough Pipes • Y. Kawase, A. V. Shenoy and K. Wakabayashi | 798 |
| | | Modeling of Porous Radiant Burners with Large Extinction Coefficients • F. Escobedo and H. J. Viljoen | 805 |
| | | Thermal Diffusion in Inclined Flat-Plate Columns of The Frazier Scheme • Ho-Ming Yeh | 815 |

| | | | |
|---|-----|---|------|
| <i>In-situ Extraction and Purification of Ethanol Using Commercial Oleic Acid</i> • D. S. Jassal, Z. Zhang and G. A. Hill | 822 | Transfert de chaleur dans un film tombant autour d'un cylindre horizontal • A. Agunaoun, A. Daif, M. Grisenti et R. Barriol | 961 |
| <i>Cake Filtration of Suspensions in Viscoelastic Fluids</i> • W. Kozicki and P. Q. Kuang | 828 | <i>Heat Transfer to Newtonian and Non-Newtonian Liquids in a Screw Agitator and Draft Coil System</i> • P. J. Carreau, J. Paris and P. Guérin | 966 |
| <i>Cell and Surfactant Separation by Column Flotation</i> • Devon L. Husband, Jacob H. Masliyah and Murray R. Gray | 840 | <i>Application of Inductive Heating to Granular Media: Modelling of Electrical Phenomena</i> • P. Duquenne, A. Deltour and G. Lacoste | 975 |
| <i>Separation of Strong Acids by Electrodialysis with Membranes Selective to Monovalent Ions. An Approach to Modelling the Process</i> • L. J. Andrés, F. A. Riera, R. Alvarez and R. Audinos | 848 | <i>Separation of Monoclonal IgM Antibodies Using Tangential Flow Ultrafiltration</i> • Mari Krishnan, Nicolas Kalogerakis, Leo A. Behie and Anil K. Mehrotra | 982 |
| <i>Effect of Restrictive Diffusion of Hydrodesulfurization of Heavy Residue Oils over CoMo/Al₂O₃</i> • Yu-Wen Chen, Ming-Chang Tsai, Chiuping Li and Ben-Chang Kang | 854 | <i>Pre-Treatment of Kraft Pulp Bleach Plant Effluent by Selected Ultrafiltration Membranes</i> • Wendy X. Yao, Kevin J. Kennedy, Chung Ming Tam and John D. Hazlett | 991 |
| <i>Hydrogenation of (-)-α-Pinene over Nickel-Phosphorus/Aluminum Oxide Catalysts Prepared by Electroless Deposition</i> • Sun-Hua Ko and Tse-Chuan Chou | 862 | <i>Chemical Absorption of Mercaptan in an Aerosol Operated Loop Reactor</i> • Ch. Kube, T. Blume, J. Prüss and H.-J. Warnecke | 1000 |
| <i>Biodegradation of Aromatic Compounds in a Self-cycling Fermenter (SCF)</i> • Bassam E. Sarkis and David G. Cooper | 874 | <i>The Operating Cost of Electrocoagulation</i> • J. C. Donini, J. Kan, J. Szynkarczuk, T. A. Hassan and K. L. Kar | 1007 |
| <i>Effects of H₂O₂ Addition Mode on Enzymatic Removal of Phenol from Wastewater in the Presence of Polyethylene Glycol</i> • Jiangning Wu, J. K. Bewtra, N. Biswas and K. E. Taylor | 881 | <i>Simultaneous Hydrolysis and Fermentation of Pulp Mill Primary Clarifier Sludge</i> • Sheldon J. B. Duff, John W. Moritz and Kari L. Andersen | 1013 |
| <i>Phase Equilibrium Data on Carbon Dioxide Hydrate in the Presence of Electrolytes, Water Soluble Polymers and Montmorillonite</i> • Peter Englezos and Stephen Hall | 887 | <i>Solvent Effects on Liquefaction: Solubilization Profiles of a Canadian Prototype Wood, <i>Populus deltoides</i>, in the Presence of Different Solvents</i> • Michèle Heitz, Anthony Brown and Esteban Chomet | 1021 |
| <i>Modeling and Simulation of the Drying of Thin Sheets in a Continuous Infrared Dryer</i> • R. Dhib, A. D. Broadbent and N. Thérien | 894 | <i>Kinetic of Copper Ion Exchange onto Iminodiacetic Resin</i> • F. Mijangos and M. Diaz | 1028 |
| <i>Performance of Control Strategies to Track the Trajectories of Batch Reactors</i> • Jyh-Shyong Chang and Kuang-Li Huang | 906 | <i>Investigation on the Flocculation of Asphaltenes and the Colloidal Stability of the Crude Oil Fraction (>210°C)</i> • A. Chaala, B. Benalla and S. Hachelef | 1036 |
| Notes | | <i>A General Procedure for the Estimation of Diffusivities in Solids</i> • V. G. Doví, A. P. Reverberi and V. P. Meshalkin | 1042 |
| <i>Microwave Assisted Barking of Frozen Wood</i> • Allan F. Gilbert and Camille Turcotte | 920 | <i>Molecular Transport of Organic Esters and Ketones into Fluoropolymer Membranes</i> • T. M. Aminabhavi and R. S. Munnoli | 1047 |
| <i>Variations in the Porous Structure of a Cr₂O₃/Al₂O₃ Catalyst by Coke Deposition</i> • M. Menéndez and A. Braña | 926 | <i>Model Based Control of a High Purity Distillation Column</i> • P. L. Douglas, P. S. Fountain, G. R. Sullivan and W. Zhou | 1055 |
| <i>Effect of Feed Cycling on Plasmid Stabilization During Continuous Fermentation: The Case of Variable Plasmid Loss Probability</i> • P. R. Patnaik | 929 | <i>The Design of Experiments, Training and Implementation of Nonlinear Controllers Based on Neural Networks</i> • Bhupinder S. Dayal, Paul A. Taylor and John F. MacGregor | 1066 |
| <i>Liquid-Liquid Equilibria of Water + Methanol + (MTBE or TAME) Mixtures</i> • Alberto Arce, Antonio Blanco, Manuel Blanco, Ana Soto and Isabel Vidal | 935 | Notes | |
| <i>Purification of Wet Process Phosphoric Acid by Solvent Extraction Liquid-Liquid Equilibrium at 25 and 40°C of the System Water-Phosphoric Acid-Methylisobutylketone</i> • M. Feki, M. Fourati, M. M. Chaabouni and H. F. Ayedi | 939 | <i>Entry and Exit Flows of Casson Fluids</i> • T. V. Pham and E. Mitsoulis | 1080 |
| <i>Contents Page from Chemical Engineering Research and Design</i> | 934 | <i>Pressure Drop in Two Phase Cocurrent Upward Flow in Packed Beds: Air/Non-Newtonian Liquid Systems</i> • K. V. Srinivas and R. P. Chhabra | 1085 |
| December 1994 | | <i>Transient Forced Convection in The Entrance Region of Porous Concentric Annuli</i> • M. A. Al-Nimr, T. K. Aldoss and M. I. Naji | 1092 |
| Articles | | <i>Prediction of Surface Tension of Naphtha Reformate Using UNIFAC</i> • E. I. Darwish, T. A. Al-Sahaf and M. A. Fahim | 1097 |
| <i>A Study of Solid Behavior in Spouted Beds Using 3-D Particle Tracking</i> • David Roy, Faïcal Larachi, Robert Legros and Jamal Chaouki | 945 | <i>Table of Contents — 1994</i> | 1101 |
| <i>Modelling the Flow in a Hydrocyclone</i> • A. Malhotra, R. M. R. Branon and E. G. Hauptmann | 953 | <i>Index of Authors — 1994</i> | 1105 |
| | | <i>Reviewers</i> | 1110 |
| | | <i>Keyword Index — 1994</i> | 1115 |
| | | <i>Summary of Policy on the Use of SI Units</i> | 1120 |
| | | <i>Contents Page from Chemical Engineering Research and Design</i> | 1096 |

